

REMARKS

This paper is submitted in response to the Office Action for the above-identified application mailed July 19, 2006.

In the Office Action, all the claims examined were rejected under 35 U.S.C. Sec. 103 for being obvious over U.S. Pat. Pub. No. US 2002/0035321 to Bucholz in view of U.S. Patents No. 5,928,137 to Green and 6,761,561 to Mandeklkern.

Certain of the claims were also rejected under 35 U.S.C. Sec. 112 for failing to particularly point out the invention to which they are directed. Objections were lodged against some of the claims.

The Applicants thank the Examiner for the courtesies expressed in a telephone interview on July 27, 2006. As a result of that interview and subsequent telephone message, the Examiner indicated that U.S. Patent Pubs. No. US 2001/0034530 to Malackowski and No. US 2002/0077544 to Shahidi were also relevant to the claimed invention. Contemporaneously with the filing of this Response, the Applicants are filing an Information Disclosure Statement to formally make these documents of record.

Initially in this Response, the Applicants have amended the title so it is more closely related to the invention now being claimed.

A drawing has been added to diagrammatically illustrate a feature described in the specification as filed. The specification has been amended to reference the added drawing. Another amendment was made to the specification to describe another feature of the invention illustrated in the drawings when originally filed. None of these changes introduce new matter into this application.

Under cover of this paper, Applicants Amend Claims 71-73, 75, 76, 78-80, 89-93, 95 and 97-99. Previously presented Claims 60-70, 72, 77, 81-88, 94 and 96 are now canceled. New Claims 100-105 are added. Claims 71 and 89 are now the sole independent claims of this application. Claims 72, 73, 75, 76, 78-80, and 100-102 are dependent from independent Claim 71. Claims 90-93, 95, 97-99 and 103-106 are dependent from independent Claim 89.

Independent Claims 71 and 89 are directed to a surgical tool assembly. The claimed assembly has a handpiece with an electrical power consuming actuator. An accessory that is actuated by the actuator extends from the handpiece. A battery attached to said handpiece energizes the actuator.

The claimed tool assembly also has a tracking unit that is removably attached to said handpiece. This tracking unit has an electrical interconnect device for electrically connecting said tracking unit to handpiece battery. The tracking unit also has a tracking member, powered by the handpiece battery, that exchanges signals with a surgical navigation system separate from said handpiece so that the surgical navigation system generates data indicating the position of the accessory. There is also a wireless receiver powered by the handpiece battery that receives data from the surgical navigation system. The claimed tracker also has a display, again powered by the handpiece battery, that presents a viewable indication of the position of said accessory.

The claim amendments correct the informalities identified in the applications. The amended and new claims all particularly point out and distinctly claim the subject the matter the Applicants regard as their invention. Accordingly,

it is respectfully requested that the rejection directed to the failure to satisfy this statutory standard be withdrawn.

Malackowski's display 108 and Shahidi's display 40 conventional large static displays disconnected from the surgical handpieces they are used to monitor.¹ There is no reason to believe Bucholz's display 125 is anything other than a similar static type display. Green requires one to introduce an electrical cable 280 into the sterile field, very close to the patient, in order to bring the image to his video display 178.² These documents do not disclose an assembly that, like the claimed assembly, has an on-handpiece display that provides a view of handpiece position without requiring the introduction of either a signal or power cable into the sterile field.

Mandelkern simply discloses a wireless dental camera with its own power supply for powering both the camera head and the signal transmitter. This does not equal the claimed assembly with a tracking unit that uses an already present power source, the handpiece battery, to perform the signal generation, signal processing and signal display required to present information regarding handpiece/accessory position.

Thus the claimed invention eliminates the need to provide the tracking unit with its own power source, be it cord or battery. The advantages of not dragging a cord into the sterile field have been discussed. The advantages of not having to provide the tracking unit a battery are two fold. First, elimination of the battery results in a like elimination of the added volume the battery brings to the tracking unit. Secondly, and perhaps more importantly, since the tracking unit is without a battery it is likewise without the added weight the battery

¹ U.S. Patent Pub. No. US 2001/0034530, Figure 1 and U.S. Patent Pub. No. US 2002./0077544, Figure 1.

² U.S. Patent No. 5,928,137, column 9, lines 28-34 and Figure 8.

would otherwise provide to the overall assembly. This minimization of assembly weight results in a like decrease in the likelihood that over time, the surgeon could experience added fatigue holding a combined instrument and tracking unit.

The prior art, even when totaled together simply fails to equal the surgical tool assembly recited by Claims 71 and 89. This assembly, for a surgeon that does not want on an on-handpiece navigation display, provides a conventional powered handpiece. For the surgeon that wants this type of display attached to the powered handpiece does more than provide it. It provides a navigation unit with a display that is both wireless and does not require the added weight or volume of its own power supply. Therefore these claims are directed to an invention that is non-obvious departure from the prior art that is entitled to patent protection.

The dependent claims are all allowable at least because they depend from allowable independent claims.

In conclusion, it is respectfully submitted that all the claim of this application are directed to a patentable invention and are in an allowable form. Since the claims, as well as the other parts of this application are in an allowable state, the Applicants courteously solicit prompt issuance of a Notice of Allowance.

Respectfully submitted,

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Attachment: Replacement/Added Figure 4A